

U.S. Serial No. 10/780,772

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IN THE CLAIMS

1. (Currently amended) A storage to be connected to a network, comprising:

 a host interface which is arranged to be connected to a host computer and the network and to receive file access from the host computer;

 a plurality of disk drives; and

 a control unit which translates data of the file access into block data and controls the plurality of disk drives on the basis of the block data, the control unit including a first processor which translates the data of the file access into the block data, a second processor which controls the plurality of disk drives on the basis of the block data, a cache memory temporarily storing the block data sent from the second processor, and a disk interface which connects the cache memory and the plurality of disk drives and sends the block data temporarily stored in the cache memory to the plurality of disk drives;

 wherein the control unit logically partitions into units the host interface, the first processor, the second processor, the cache memory, the disk interface, and the plurality of disk drives, allocating a logically-partitioned portion of each of the host interface, the first processor, the second processor, the cache memory, the disk interface, and the plurality of disk drives to each of the units, and causes the partitioned host interface, the partitioned first processor, the partitioned second processor, the partitioned cache memory, the partitioned disk interface, and the partitioned plurality of disk drives the units to operate as a plurality of virtual storages independently.

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2. (Original) A storage according to claim 1, wherein the control unit further includes a plurality of cache memories, and the plurality of cache memories is logically partitioned and allocated to the respective plurality of virtual storages.

3. (Canceled).

4. (Currently amended) A storage according to claim 2, wherein the first processor executes a first hypervisor which performs the logical partitioning of the host interface and the first processor, and

wherein the second processor executes a second hypervisor which performs the logical partitioning of the plurality of cache memories, the disk interface, the plurality of disk devices and the second processor.

5. (Previously presented) A storage according to claim 4, wherein the control unit further includes a plurality of memories which are used by the first processor and a plurality of communication units which connect the first processor and the second processor,

wherein the plurality of memories are logically partitioned by the first hypervisor and the plurality of communication units are logically partitioned by the second hypervisor.

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6. (Currently amended) A storage according to claim 2, wherein the first processor and the second processor execute a hypervisor which performs the logical partitioning of the host interface, the first processor, the plurality of cache memories, the second processor, the disk interface, and the plurality of disk drives.

7. (Currently amended) A storage according to claim 1, wherein the control unit executes a hypervisor which performs the logical partitioning of the host interface, the first processor, the second processor, the cache memory, the disk interface, and the plurality of disk drives.

8. (Previously presented) A storage according to claim 2, further connected to a supervising terminal,

wherein the control unit performs the logical partitioning on the basis of information inputted from the supervising terminal.

9. (Currently amended) A storage according to claim 8, wherein, if information to be inputted to the supervising terminal is information to the effect that a host system using the storage emphasizes data transfer rate, an amount of allocation of the plurality of cache memories to a virtual storage to be used by the host system among the plural plurality of virtual storages is increased.

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10. (Currently amended) A storage according to claim 8, wherein, if information to be inputted to the supervising terminal is information to the effect that a host system using the storage performs random access in a large area, an amount of allocation of the plurality of cache memories to a virtual storage to be used by the host system among the plural plurality of virtual storages is reduced.

11. (Original) A storage according to claim 5 further connected to a supervising terminal,

wherein the control unit performs the logical partitioning on the basis of information inputted from the supervising terminal.

12. (Currently amended) A storage according to claim 11, wherein, if information to be inputted to the supervising terminal is information to the effect that a host system using the storage performs sequential continuous access, an amount of allocation of the plurality of cache memories and the plurality of memories which is used by the first processor to a virtual storage to be used by the host system among the plural plurality of virtual storages is increased.

13. (Previously presented) A storage according to claim 8, wherein, if information to be inputted to the supervising terminal is information to the effect that a host system using the storage requires access to a smaller number of large files than that for which processor support to one of the virtual storages is currently set for

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the host system, an amount of allocation of the first processor to the virtual storage to be used by the host system is reduced, and an amount of allocation of the second processor to the virtual storage is increased.

14. (Previously presented) A storage according to claim 8, wherein, if information to be inputted to the supervising terminal is information to the effect that a host system using the storage requires access to a larger number of small files than that for which processor support to one of the virtual storages is currently set for the host system, an amount of allocation of the first processor to the virtual storage to be used by the host system is increased, and an amount of allocation of the second processor to the virtual storage is reduced.

15. (Previously presented) A storage according to claim 11, wherein if information to be inputted to the supervising terminal is information to the effect that a host system using the storage requires sequential access to a larger file than that for which communication unit support to one of the virtual storages is currently set for the host system, an amount of logical allocation of the plurality of communication units to the virtual storage to be used by the host system is reduced.

16. (Currently amended) A storage system comprising:
a storage comprising a host interface which is arranged to be connected to a host computer and a network and to receive file access from the host computer; a

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plurality of disk drives; and a control unit which is arranged to translate data of the file access into block data and to control the plurality of disk drives on the basis of the block data, the control unit including a first processor which translates the data of the file access into the block data, a second processor which controls the plurality of disk drives on the basis of the block data, a cache memory temporarily storing the block data sent from the second processor, and a disk interface which connects the cache memory and the plurality of disk drives and sends the block data temporarily stored in the cache memory to the plurality of disk drives; and

a supervising terminal which is connected to the storage,

wherein the storage logically partitions into units the host interface, the first processor, the second processor, the cache memory, the disk interface, and the plurality of disk drives on the basis of information inputted to the supervising terminal, allocating a logically-partitioned portion of each of the host interface, the first processor, the second processor, the cache memory, the disk interface, and the plurality of disk drives to each of the units, and operates the partitioned host interface, the partitioned first processor, the partitioned second processor, the partitioned cache memory, the partitioned disk interface, and the partitioned plurality of disk drives units as plural virtual storages independently.

17. (Previously presented) A storage system according to claim 16, wherein the information inputted to the supervising terminal is information on characteristics of accesses of a computer using the storage, and the storage calculates an amount

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of logical partitioning of resources provided in the storage on the basis of the information on characteristics of accesses inputted to the supervising terminal, and performs the logical partitioning using a result of the calculation.

18. (Currently amended) A storage to be connected to a network, comprising:
a host interface which is arranged to be connected to a host computer and the network and to receive file access from the host computer;
a plurality of disk drives; and
a control unit which translates data of the file access into block data and controls the plurality of disk drives on the basis of the block data,
wherein the control unit further includes a first processor which translates the data of the file access into the block data, a second processor which controls the plurality of disk drives on the basis of the block data, a plurality of cache memories temporarily storing the block data sent from the second processor, a plurality of memories which are used by the first processor, a plurality of communication units which connect the first processor and the second processor, and a disk interface which connects the plurality of cache memories and the plurality of disk drives and sends the block data temporarily stored in the cache memories to the plurality of disk drives;
wherein the control unit logically partitions into units the plurality of cache memories, the first processor, the second processor, the host interface, the plurality of disk drives, the plurality of memories, the plurality of communication units, and the

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disk interface, allocating a logically-partitioned portion of each of the host interface,
the first processor, the second processor, the plurality of cache memories, the
plurality of disk drives, the plurality of memories, the plurality of communication units,
and the disk interface, and causes the partitioned plurality of cache memories, the
partitioned first processor, the partitioned second processor, the partitioned host
interface, the partitioned plurality of disk drives, the partitioned plurality of memories,
the partitioned plurality of communication units, and the partitioned disk interface the
units to operate as a plurality of virtual storages independently.